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## CASE REPORT

# Primary hydatid cyst masquerading as pseudocyst of the pancreas with concomitant small gut obstruction—an unusual presentation<sup>☆</sup>

Usha Dalal<sup>a</sup>, Ashwani Kumar Dalal<sup>a</sup>, Rikki Singal<sup>b,\*</sup>, Bikash Naredi<sup>b</sup>, Samita Gupta<sup>c</sup><sup>a</sup> Department of Surgery, Government Medical College and Hospital, Sector-32, Chandigarh, Punjab, India<sup>b</sup> Department of Surgery, Maharishi Markandeshwar Institute of Medical Sciences and Research, Mullana, District Ambala, Haryana, India<sup>c</sup> Department of Radiodiagnosis and Imaging, Maharishi Markandeshwar Institute of Medical Sciences and Research, Mullana, District Ambala, Haryana, India

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**Abstract** Isolated retroperitoneal hydatid cyst is an exceptionally rare entity. Owing to vague and varied symptomatology, it is seldom diagnosed without puncture cytology or surgery. We report an unusual presentation of primary retroperitoneal hydatid cyst with concomitant small gut obstruction. Ultrasonography and computed tomography of the abdomen showed localized abscess or pseudocyst of pancreas. Preoperatively, ultrasound-guided puncture cytology of the lesion revealed suspicious hydatid pathology. The patient was examined and, peroperatively, the cyst masqueraded as hydatid cyst of pancreas along with an inflammatory band, and the diagnostic dilemma about its exact site of origin was solved by histopathology only. Complete excision of the cyst along with the tail of pancreas was done with concomitant excision of inflammatory band, causing small intestinal obstruction. The patient was discharged in satisfactory condition on albendazole. In follow-up of 8 months, there was no recurrence. Copyright © 2011, Elsevier Taiwan LLC. All rights reserved.

<sup>☆</sup> This case study was done in Government Medical College and Hospital, Sector 32, Chandigarh, Punjab, India.<sup>\*</sup> Corresponding author. Dr Rikki Singal, C/o Dr Kundan Lal Hospital, Ahmedgarh, District Sangrur, 148021, Punjab, India.  
E-mail address: [singalrikki@yahoo.com](mailto:singalrikki@yahoo.com) (R. Singal).

## Introduction

In sheep- and cattle-rearing areas, hydatid disease is a common health problem [1]. Retroperitoneal hydatid cyst without hepatic involvement is a rare entity even in endemic areas. Immunological test may aid in diagnosis, but percutaneous puncture cytology or surgery can only accurately diagnose its hydatid nature. Owing to severe life threatening anaphylaxis by spillage of the contents during percutaneous puncture or surgery, keeping high index of suspicion of hydatid cyst in mind, every measure should be taken to treat this unexpected complication during these procedures in all cases [2–4]. Isolated pancreatic hydatid cyst is very rare. Its incidence reported in literature varies from 0.14% to 2% [5]. The location of the cyst in the pancreas has different distributions: head (57%), corpus (24%), and tail (19%) [5].

## Case presentation

A 48-year-old male patient presented twice in emergency surgery department with short history of fullness in the epigastrium, intermittent fever, and dull aching abdomen. On first admission, the patient complained of severe pain in the abdomen since 1 week, more intense in the epigastrium region, which was radiating to the backside. High-grade fever was also present. There was also a history of constipation on and off since 1 week.

On abdominal examination, fullness and tenderness were found in the epigastrium region. There was no rigidity or guarding. Bowel sounds were present. Ultrasonography and contrast-enhanced computed tomography (CECT) of the abdomen revealed a well-defined, low-attenuation, pancreatic cystic lesion,  $8 \times 5$  cm in size in relation to the tail of the pancreas and anterior to the splenic vessels (Fig. 1). Differential diagnoses of localized abscess or pseudo-pancreatic cyst were made on CECT. The rest of the organs were normal, including the lungs. Serum amylase was normal. Ultrasound-guided aspiration of the lesion revealed thick white purulent fluid, which was sent for culture, and it came out to be sterile. Third-generation cephalosporin and metrogyl were given parenterally. Fever subsided, and the patient improved symptomatically and was discharged after 7 days.

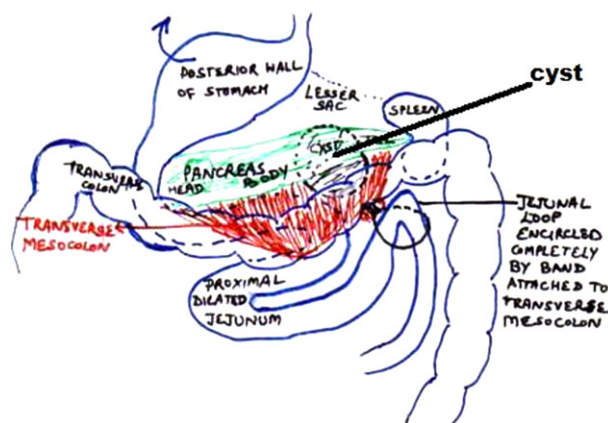
He was readmitted after 10 days of discharge with abdominal discomfort, fever, and vomiting. History of constipation was there since 3–4 days. Fever was high grade and continuous in nature. Physical examination revealed a pulse rate of 110/min, blood pressure of 126/86 mmHg, respiration rate of 22/min, and temperature of  $39.5^{\circ}\text{C}$ . The total leukocyte count was raised; rest of the blood test results were within normal limits, including serum amylase, lipase, and liver function tests. On abdominal examination, distention was found to be present. On palpation, a vague retroperitoneal mass of size  $5.8 \times 6.4$  cm was felt, which was firm in consistency. The mass was not moving with respiration. Generalized tenderness was present. Bowel sounds were absent. Provisional diagnosis of retroperitoneal mass with intestinal obstruction was kept.



**Figure 1.** Contrast enhanced computed tomography of abdomen revealed a well-defined low attenuation, cystic lesion of  $8 \times 5$  cm size in relation to the tail of pancreas and anterior to the splenic vessels.

X-ray of the abdomen in supine position showed multiple dilated small bowel loops. On erect X-ray of the abdomen, multiple air fluid levels were found, and diagnosis of small gut obstruction was made. Repeat ultrasound abdomen revealed a lesion of size  $7 \times 5$  cm in retroperitoneal region in relation to the tail of pancreas. CECT of the abdomen revealed retroperitoneal lesion of size  $7 \times 5$  cm in relation to the tail of the pancreas with dilated small bowel loops. The rest of the organs were normal; hence, diagnosis of primary hydatid cyst of the pancreas was made radiologically. Ultrasound-guided aspiration was done again to rule out neoplastic nature of the lesion. Cytology revealed scolices compatible with hydatidosis. Small gut obstruction could not be relieved with conservative management; hence, laparotomy was planned in emergency.

Through a midline incision, findings revealed a band arising from inferior surface of transverse mesocolon encircling completely a 5-cm loop of distal jejunum with dilated proximal jejunum and a cyst of size  $5 \times 5$  cm projecting from inferior border of pancreas into the root of transverse mesocolon just proximal to the tail of pancreas (Fig. 2). The capsule and the tissue of the pancreas were inseparable from the cyst. Peroperatively, it looked like a hydatid cyst of pancreas on correlation with cytology



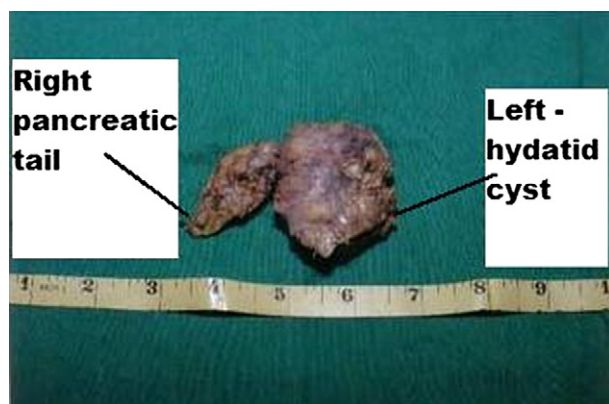
**Figure 2.** A band arising from inferior surface of transverse mesocolon encircling completely 5 cm loop of distal jejunum with a cyst of 5 x 5 cm size in the region of the body of pancreas.

report. The rest of the abdominal organs were normal. Excision of the band was done. Complete excision of the cyst was done along with the capsule and tail of the pancreas (Fig. 3).

The histopathology of the cyst was compatible with hydatid cyst, but the attached capsule of pancreas overlying the cyst and tail was remarkably normal with no evidence of invasion. Hence, the final diagnosis of isolated primary retroperitoneal hydatid cyst of the pancreas was made, as other organs of the body did not reveal any hydatid cyst. Histopathology of the band showed nonspecific inflammatory fibrous tissue. Postoperative hospital stay was uneventful, and the patient was discharged on albendazole, 400 mg/d for 6 months. The patient was asymptomatic at 8 months of follow-up.

## Discussion

Human hydatidosis involves liver or lung in 85–95% of the cases, and extrahepatic involvement is encountered in only 5–15% of the cases. Isolated retroperitoneal hydatid cyst is extremely rare, and pancreatic involvement occurs in less than 1% of the cases as reported in literature [3]. By



**Figure 3.** Gross specimen showing cyst along with the capsule and tail of the pancreas.

definition, it is located in the space lying behind the posterior parietal peritoneum without hepatic involvement. The entity of primary retroperitoneal hydatid was first reported by Lockhart and Sapinja in 1958 [1]. Various modes of spread have been suggested to explain the escape of liver and lung involvement—through lymphatics or through venovenous shunts within the liver and the space of Retzius [2,4]. Some authors have even favored airborne transmission or direct implantation of the embryo in the bronchial mucosa as another mode of entry.

Generally, the patient presents with bizarre abdominal features, that is, vague abdominal pain, mass, or compression syndromes [5,6]. In our case, the patient presented with features of small gut obstruction because of an inflammatory band. Imaging studies may suggest hydatid cyst [7,8]. Imaging studies in our case showed a low-attenuation cystic lesion reported as an abscess or pseudo-pancreatic cyst. With clinical presentation and imaging studies, it usually masquerades as soft tissue tumor of retroperitoneum, lymphangioma, abscess, pseudocyst, or embryonal cyst. Rarely, it may present as a false aneurysm of aorta or retrocaval ureter [7]. It is difficult to make a diagnosis of hydatid cyst based on imaging modalities. Immunological test done on grounds of high index of suspicion may aid in diagnosis. In our case, hydatid serology was not done, as it was not suspected clinically and radiologically also.

Most of the times, diagnosis of hydatid nature comes as a surprise either by ultrasound-guided percutaneous puncture, cytology, or during surgery only, but severe anaphylaxis may occur during these procedures because of spillage of the contents if hydatid nature is not suspected before [6]. We did repeat percutaneous puncture cytology at second admission to rule out neoplastic nature of the lesion, but fortunately, anaphylaxis did not occur in our patient.

Surgery and complete excision are the mainstay of treatment. Albendazole is a useful drug for intraoperative spillage and to reduce the risk of recurrence. Ultrasound-guided percutaneous aspiration along with albendazole has also been described as an attractive alternative [8,9]. Nowadays, in the era of minimal invasive surgery, with advanced techniques, it can be excised laparoscopically also [10]. In our case, the retroperitoneal cyst was displacing and compressing the pancreas anteriorly from behind and was adherent to its capsule. Peroperative diagnosis was a hydatid cyst of pancreas as the overlying stretched pancreatic tissue, and the capsule falsely gave the impression of the pericyst of the hydatid cyst. The small gut obstruction was attributed to the inflammatory band. Although preoperative puncture cytology accurately diagnosed the hydatid nature of the lesion, still, only histopathology could make the diagnosis of its exact site by excluding the pancreatic involvement.

## Conclusion

Even in endemic areas, owing to its rarity and bizarre presentation, isolated retroperitoneal hydatid cysts are frequently misdiagnosed or can rarely be accurately diagnosed before surgery. Treatment of choice is surgery in intestinal obstruction and hydatid cyst.

## References

- [1] Lockhart J, Sapinja VC. Primary retroperitoneal hydatid cyst. *Excerpta Med Surg* 1958;12:4513.
- [2] Barret NR. The anatomy and the pathology of multiple hydatid cysts in the thorax. Arris and Gale lecture. *Ann R Col Surg Engl* 1960;26:362–79.
- [3] Ozmen MM, Moran M, Karakahya M, Coskun F. Recurrent acute pancreatitis due to a hydatid cyst of the pancreatic head: a case report and review of the literature. *JOP* 2005;6:354–8.
- [4] Macphail JL, Arora TS. Intrathoracic hydatid disease. *Dis Chest* 1967;52:772–81.
- [5] Jai SR, El Hattabi K, Bensardi F, Chehab F, Khaiz D, Bouzidi A. Primary hydatid cyst of the pancreas causing obstructive jaundice. *Saudi J Gastroenterol* 2007;13:191–3.
- [6] Hadijat N, Graba A, Mansouri H. Rupture of retroperitoneal hydatid cyst into the abdominal aorta. *Ann Vasc Surg* 1987;1:483–5.
- [7] Mennor SF, Marti BL, Garcia AF, Gordo RG, Ballesta CA. Isolated retroperitoneal hydatid cyst. *J Radiol* 1987;68:209–11.
- [8] Yilmaz S, Baydar S, Guney S. Primary hydatid cyst in the retroperitoneal space: role of CT. *Eur Radiol* 2002;12:2303–5.
- [9] Zerem E, Sabanov ZS. Percutaneous treatment of abdominal and retroperitoneal echinococcal cysts using ultrasonography. *Med Arch* 2003;1:71–3.
- [10] Chowbey PK, Wadhwa A, Shah S, Khullar R, Sharma A, Soni V, et al. Endoscopic management of retroperitoneal hydatid cyst—a case report and review of literature. *J Laprosc Adv Surg Tech* 2004;14:236–40.